

Bird-infesting Mallophaga of Japan.
(Genus *Physostomum*)

By

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Genus **PHYSOSTOMUM** Nitzsch.

Kellogg, Mallophaga, Genera Insectorum, 1908, Fasc. 66, p. 71 ;
Mjöberg, Arkiv för Zoologi, 1910, Bd. 6, p. 58.

1. ***Physostomum mystax*** Nitzsch.

Denny, Monogr. Anopl. Brit., 1842, p. 241, pl. xxiii, fig. 6 ; Giebel,
Insecta Epizoa, 1874, p. 254, Taf. xviii, Fig. 2, 3 ; Piaget, Les Pediculines,
1880, p. 602, pl. L, fig. 2.

A single female collected by Mr. N. Kuroda from *Turdus fuscatus* in
Tokyo.

2. ***Physostomum frenatum*** Nitzsch.

Giebel, Insecta Epizoa, 1874, p. 256, Taf. xviii, Fig. 6.

Two females and two youngs collected from *Regulus regulus japonensis*
in Prov. Shinano, April 4, 1914.

3. ***Physostomum diffusum*** var. ***pallidum*** Kellogg.

Kellogg, New Mallophaga II, 1896, p. 519.

One male specimen from *Montifringilla brunneinucha* collected in Prov.
Shinano, Feb. 13, 1914.

The specimen, although a male, agrees perfectly with Kellogg's de-

scription of the female of the species, which was obtained from *Junco hyemalis* and *Junco* sp.

Measurements of the male specimen on hand :

	Length	Width.
Body,	3.23 mm.	.95 mm.
Head, ... ..	.67 mm.	.66 mm.
Prothorax, ... ..	.31 mm.	.52 mm.

4. *Physostomum intermedium* sp. nov. (Fig. 1)

Five females, two males and three young were collected from *Parus ater insularis* (Prov. Shinano, Feb. 27, 1914) and from *Parus atricapillus restrictus* (Prov. Shinano, May 10, 1914).

Measurements.

	♀	♀	♀	♀	♂	♂
Length of body... ..	mm. 2.9	mm. 2.9	mm. 2.9	mm. 2.9	mm. 2.2	mm. 2.2
Width of body ... ..	.86	.83	.82	.84	.70	.67
Length of head... ..	.56	.58	.57	.56	.48	.47
Width of head ... ..	.56	.57	.57	.55	.48	.47
Length of prothorax ... ..	.26	.26	.26	.25	.20	.20
Width of prothorax ... ..	.51	.51	.51	.47	.41	.40

Ground color of head pale brown, with blackish brown marking ; thorax and abdomen brown, with dark brown lateral band.

Female:—Head in front broad and rounded, with a few very fine hairs ; sides nearly straight ; palettes large and produced ; the last segment of palpi projecting beyond lateral margin of head ; one long and two short hairs on the margin and at the very slight ocular emargination ; two short hairs in front of antennal fossa ; temples produced backwards and acutely angled, each bearing one short and two long hairs ; occipital margin deeply re-entering, occiput slightly concave ; marking on head indistinct, except a blackish brown blotch

on the margin of antennal fossa and the narrow occipital border of the same colour. Clypeal suture pale brown, with several short and six long hairs (four lateral and two submedian).

Prothorax hexagonal, nearly as wide as the head at temporal angles; with anterior and posterior margins concave; lateral angle distinct, with two spines and a long hair at apex; two spines on lateral margin in front of the lateral angle; one long hair and a spine near the posterior angle. Submarginal bands brownish.



Fig. 1.

Physostomum intermedium
n. sp., female. $\times 30$

Metathorax scarcely longer than prothorax, with anterior parts rounded and covered by prothorax; sides very slightly concave; posterior border truncate and as wide as the first segment of abdomen; four spines in the anterior part of lateral margin, and two longish hairs near posterior angles. Lateral bands dark brown; two indistinct transverse dark bands interrupted in the median line; Legs pale brownish with transverse whitish markings.

Abdomen with weakly convex and subparallel sides; last segment broad and rounded; a long hair and a very small spine on posterior angles of each segment; on the dorsal surface just inside of the coloured lateral bands, a double longitudinal row of weak hairs; four or six long and a few short hairs on the rounded margin of eighth segment. Lateral bands dark brown; posterior margin of each segment whitish.

Male:—Smaller than female; the last abdominal segment with a dusky, median transverse band, but without lateral bands; posterior margin truncate, with a brownish marginal band; genitalia distinct, racket-like in shape, reaching from sixth segment to the middle of eighth segment.

This species much resembles Kellogg's *Physostomum sucinaccum* as

well as Carriker's *Ph. leptosomum*, but may be distinguished from either by the markings of metathorax, by distinct lateral angles of prothorax., etc.

5. *Physostomum japonicum* sp. nov.

Four females and a young taken from *Anthus spinoletti japonicus* collected in Prov. Shinano, Oct. 31, 1914.

Measurements

	mm.	mm.	mm.	mm.
Length of body	3.1	3.1	3.1	3.1
Width of body ... ..	.90	.90	.89	.89
Length of head ... ..	.64	.66	.67	.64
Width of head ... ..	.58	.59	.60	.60
Length of prothorax ... ..	.30	.32	.30	.30
Width of prothorax ... ..	.53	.54	.53	.51

This form is closely related to the preceding species but can be distinguished by the following characters :

1. Size larger, head longer.
2. Ground colour of body paler.
3. Temples longer and more pointed.
4. Posterior angles of prothorax with two longish hairs.
5. Last abdominal segment of female more rounded.

6. *Physostomum muginaki* sp. nov. (Fig. 2).

Four females and two young taken from *Muscivapa muginaki* collected in Prov. Shinano, October 12, 1914.

Measurements.

	mm.	mm.	mm.
Length of body	3.25	3.25	3.30
Width of body ... ..	.83	.80	.84
Length of head ... ..	.69	.69	.69
Width of head ... ..	.60	.61	.60
Length of prothorax ... ..	.31	.32	.32
Width of prothorax ... ..	.55	.55	.55

Female.—Ground colour of head and thorax pale brown with blackish brown marking; abdomen yellowish; lateral bands blackish brown.

Head conical; front weakly convex with a few very fine hairs; sides of head straight; palettes medium-sized, laterally projecting; palpi projecting with the apical segment; ocular emargination small, with two short prickly-like hairs; temples produced backwards and acutely angled, with three hairs—a long hair anteriorly on the margin, and farther back a short and a long hair situated at a somewhat dorsal position.—Occipital margin deeply re-entering. Colour of head whitish; markings on border of antennal fossae and on occiput blackish brown, those of other parts brownish.



Fig. 2.
Physostomum mugimaki
n. sp., female. $\times 28$

Prothorax hexagonal, nearly as wide as the head at temples; anterior and posterior margins concave; two spines on lateral margin in front of the lateral angle which bears one long hair and two spines; a single long hair on each lateral margin near the posterior angle; lateral margins unevenly coloured dark brown; submarginal bands blackish brown.

Metathorax longer than prothorax; its anterior parts rounded and covered by prothorax; posterior margin straight; sides slightly swollen in the anterior third of its length, straight behind that swelling, four or five spines scattered along lateral margin; a long hair on each posterior angle; submarginal lateral bands narrow and blackish brown, outside which bands the margin of the posterior half of the segment is irregularly coloured with blackish brown. Legs long, rather slender and almost colourless.

Abdomen nearly parallel sided; with a long hair and a spine in posterior

angles of segments; posterior margin of anterior seven segments with a short hair on each side; eighth segment with evenly rounded sides, each with two short hairs; vulva convex, fringed with fine hairs; entire abdomen yellowish excepting the distinct blackish brown submarginal lateral bands, extending from the end of metathoracic bands to the middle of the eighth segment, the margins outside those bands being suffused with dark brown.

This species resembles Kellogg's *Physostomum fallens* as well as *Ph. invadens*, but differs markedly from either in size, markings, shape of head, etc.